

SUB A17

CLAIMS

1. A system for searching a bioinformatics data collection, said system comprising:
an organizer configured to receive search requests, said organizer comprising:
a bioinformatics data collection having at least two entries;
wherein the bioinformatics data collection is organized into at least two taxonomies;
wherein each of the at least two taxonomies is associated with at least two categories;
wherein the entries correspond to at least one of the at least two taxonomies and also
correspond to at least one of the at least two categories; and
a search engine in communication with the electronic product catalog,
wherein said search engine is configured to search based on the at least two taxonomies
and based on the at least two categories,
wherein the search engine returns, in response to a search request identifying at least a first
taxonomy of the at least two taxonomies, a list of the categories associated with the at least first
identified taxonomies, along with the number of entries associated with each of the categories
associated with the at least first identified taxonomies.
2. The system according to Claim 1, wherein the returned list of categories associated
with the at least one first taxonomies, along with the number of entries associated with each of the
categories associated with the identified taxonomies can be further searched with regard to at least
a second taxonomy of the at least two taxonomies, whereby the search engine returns, in response
to a search request identifying the at least second taxonomies of the at least two taxonomies, a list
of the categories associated with both identified taxonomies, along with the number of entries
associated with each of the categories associated with the second taxonomies.

1 3. The system according to Claim 1, wherein the search engine, having returned, in
2 response to a search request identifying at least a first taxonomy of the at least two taxonomies, a
3 list of the categories associated with the identified taxonomies, along with the number of entries
4 associated with each of the categories associated with the identified taxonomies, will provide only
5 those categories with a non-zero number of entries associated with the identified taxonomies and
6 will further return sub-categories both associated with the category and having a non-zero number
7 of entries associated with the sub-category.

1 4. The system according to Claim 3, wherein the search engine, having further
2 returned sub-categories both associated with the category and having a non-zero number of entries
3 associated with the sub-category, will, in response to a search request identifying at least a second
4 taxonomy of the at least two taxonomies, provide a list of the categories with a non-zero number
5 of entries associated with the at least second identified taxonomies, along with the number of
6 entries associated with each of the categories associated with the at least second identified
7 taxonomies.

1 5. The system according to Claim 1, wherein the search engine, having returned, in
2 response to a search request identifying at least a first taxonomy of the at least two taxonomies, a
3 list of the categories associated with the identified taxonomies, along with the number of entries
4 associated with each of the categories associated with the identified taxonomies, will, in response
5 to a string query, provide those entries which both contain the string and are associated with the
6 identified taxonomies.

1 6. The system according to Claim 5, wherein the string is one member of the group
2 consisting of text, image, and graphic.

1 7. The system according to Claim 1, wherein the system comprises a network of
2 computers.

1 8. The system according to Claim 1, wherein the system comprises a single computer.

1 9. The system according to Claim 1, wherein the system further comprises a cache
2 which stores the returned results of the search engine for rapid retrieval.

1 10. The system for searching an electronic product catalog according to Claim 1,
2 wherein at least one taxonomy of the at least two taxonomies is selected from the group consisting
3 of organism, biological process, molecular function, species, and cellular component.

1 11. A system for searching a bioinformatics collection, said system comprising:
2 means for networking a plurality of computers; and
3 means for organizing executing in said computer network and configured to receive search
4 requests from any one of said plurality of computers, said means for organizing comprising:
5 a bioinformatics collection having at least two entries;
6 wherein the bioinformatics collection is organized into at least two taxonomies;
7 wherein each of the at least two taxonomies is associated with at least two categories;
8 wherein the entries correspond to at least one of the at least two taxonomies and also
9 correspond to at least one of the at least two categories; and
10 means for searching in communication with the bioinformatics collection,
11 wherein said means for searching is configured to search based on the at least two
12 taxonomies and based on the at least two categories,
13 wherein the means for searching returns, in response to a search request identifying at least
14 one of the at least two taxonomies, a list of the categories associated with the identified

taxonomies, along with the number of entries associated with each of the categories associated with the identified taxonomies.

12. The system according to Claim 11, wherein the returned list of categories associated with the at least first taxonomy, along with the number of entries associated with each of the categories associated with the identified taxonomies can be further searched with regard to at least a second of the at least two taxonomies, whereby the means for searching returns, in response to a search request identifying the at least second taxonomy of the at least two taxonomies, a list of the categories associated with all identified taxonomies, along with the number of entries associated with each of the categories associated with the at least second taxonomy.

13. The system according to Claim 11, wherein the means for searching, having returned, in response to a search request identifying at least a first taxonomy of the at least two taxonomies, a list of the categories associated with the identified taxonomies, along with the number of entries associated with each of the categories associated with the identified taxonomies, will provide only those categories with a non-zero number of entries associated with the identified taxonomies and will further provide sub-categories associated with the category and having a non-zero number of entries associated with the sub-category.

14. The system for searching an electronic product catalog according to Claim 11, wherein the means for searching, having further returned sub-categories both associated with the category and having a non-zero number of entries associated with the sub-category, will, in response to a search request identifying at least a second taxonomy of the at least two taxonomies, provide a list of the categories with a non-zero number of entries associated with the at least

6 second identified taxonomy, along with the number of entries associated with each of the
7 categories associated with the at least second identified taxonomy.

1 ¹⁵14. The system according to Claim 13, wherein the means for searching, having
2 returned, in response to a search request identifying at least a first taxonomy of the at least two
3 taxonomies, a list of the categories associated with the identified taxonomies, along with the
4 number of entries associated with each of the categories associated with the identified
5 taxonomies, will, in response to a string query, provide those entries which both contain the string
6 and are associated with the identified taxonomies.

1 ¹⁶15. The system according to Claim 11, wherein the string is one member of the group
2 consisting of text, image, and graphic.

1 ¹⁷16. The system according to Claim 11, wherein the system comprises a network of
2 computers.

1 ¹⁸17. The system according to Claim 11, wherein the system comprises a single
2 computer.

1 ¹⁹18. The system according to Claim 11, wherein the system further comprises a cache
2 which stores the returned results of the means for searching for rapid retrieval.

1 ²⁰19. The system according to Claim 11, wherein at least one taxonomy of the at least
2 two taxonomies is selected from the group consisting of organism, biological process, molecular
3 function, species, and cellular component.

1 ²¹20. A method for searching a bioinformatics collection, said method comprising:
2 communicating a search request to a search engine, the search engine being in
3 communication with a bioinformatics collection;
4 wherein the bioinformatics collection has at least two entries;

5 wherein the bioinformatics collection is organized into at least two taxonomies;
6 wherein each of the at least two taxonomies is associated with at least two categories;
7 wherein the at least two entries correspond to at least one of the at least two taxonomies
8 and also correspond to at least one of the at least two categories;
9 querying of the bioinformatics collection by the search engine based on the communicated
10 search request;
11 wherein the communicated search request identifies at least one of the at least two
12 taxonomies;
13 returning of a list of the categories associated with the at least one identified taxonomy,
14 along with the number of entries associated with each of the categories associated with the at least
15 one identified taxonomy as a response to the querying of the bioinformatics collection.

1 ²¹
2 ~~21~~. The method according to Claim 20, wherein the method further comprises
3 returning, in response to a search request identifying at least a second taxonomy of the at
4 least two taxonomies, a list of the categories associated with all identified taxonomies, along with
5 the number of entries associated with each of the categories associated with the at least second
6 taxonomy.

1 ²¹
2 ~~22~~. The method according to Claim 20, wherein the method further comprises
3 returning a list of only those categories with a non-zero number of entries associated with
4 the identified taxonomies and further returning at least one sub-category associated with the
5 category and having a non-zero number of entries associated with the sub-category.

1 ²³
2 ~~23~~. The method according to Claim 22, wherein the method further comprises
3 having further returned sub-categories both associated with the category and having a non-
4 zero number of entries associated with the sub-category, providing, in response to a search request

identifying at least a second taxonomy of the at least two taxonomies, provide a list of the categories with a non-zero number of entries associated with the at least second identified taxonomy, along with the number of entries associated with each of the categories associated with the at least second identified taxonomy.

15-24. The method according to Claim 20²¹, wherein the method further comprises returning, in response to a string query, provide those entries which both contain the string and are associated with the identified taxonomy.

16-25. The method according to Claim 24²⁵, wherein the string is one member of the group consisting of text, image, and graphic.

17-26. The method according to Claim 20²¹, wherein the system comprises a network of computers.

18-27. The method according to Claim 20²¹, wherein the system comprises a single computer.

19-28. The method according to Claim 20²¹, wherein the system further comprises a cache which stores the returned results of the means for searching for rapid retrieval.

20-29. The method according to Claim 25²⁶, wherein at least one taxonomy of the at least two taxonomies is selected from the group consisting of organism, biological process, molecular function, species, and cellular component.

21-30. An article of manufacture comprising:
a computer usable medium having computer program code means embodied thereon for searching an electronic product catalog, the computer readable program code means in said article of manufacture comprising

5 computer readable program code means for communicating a search request to a search
6 engine, the search engine being in communication with a bioinformatics collection;

7 wherein the bioinformatics collection has at least two entries;

8 wherein the bioinformatics collection is organized into at least two taxonomies;

9 wherein each of the at least two taxonomies is associated with at least two categories;

10 wherein the at least two entries correspond to at least one of the at least two taxonomies
11 and also correspond to at least one of the at least two categories;

12 computer readable program code means for querying of the bioinformatics collection by
13 the search engine based on the communicated search request;

14 wherein a communicated search request identifies at least one of the at least two
15 taxonomies; and

16 computer readable program code means for returning of a list of the categories associated
17 with the at least one identified taxonomy, along with the number of entries associated with each of
18 the categories associated with the at least one identified taxonomy as a response to the querying of
19 the bioinformatics collection.

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31
32 The article of manufacture according to Claim 30, wherein the computer readable
program code means for querying of the bioinformatics collection by the search engine, having
returned, in response to a search request identifying at least a first taxonomy of the at least two
taxonomies, a list of the categories associated with the identified taxonomies, along with the
number of entries associated with each of the categories associated with the identified
taxonomies, will provide only those categories with a non-zero number of entries associated with
the identified taxonomies and will further provide sub-categories associated with the category and
having a non-zero number of entries associated with the sub-category.

33
34 The article of manufacture according to Claim 31, wherein the computer readable
program code means for querying of the electronic product catalog by the search engine, having
further returned sub-categories both associated with the category and having a non-zero number of
entries associated with the sub-category, will, in response to a search request identifying at least a
second taxonomy of the at least two taxonomies, provide a list of the categories with a non-zero
number of entries associated with the at least second identified taxonomy, along with the number
of entries associated with each of the categories associated with the at least second identified
taxonomy.

34
35 The article of manufacture according to Claim 33, wherein the means for
searching, having returned, in response to a search request identifying at least a first taxonomy of
the at least two taxonomies, a list of the categories associated with the identified taxonomies,
along with the number of entries associated with each of the categories associated with the
identified taxonomy, will, in response to a string query, provide those entries which both contain
the string and are associated with the identified taxonomies.

1 ³⁶~~35.~~ The article of manufacture according to Claim ³¹~~30~~, wherein the string is one
2 member of the group consisting of text, image, and graphic.

1 ³⁷~~36.~~ The article of manufacture according to Claim ³¹~~30~~, wherein at least one taxonomy
2 of the at least two taxonomies is selected from the group consisting of organism, biological
3 process, molecular function, species, and cellular component.